CLAIM AMENDMENTS

1 to 40. *Cancelled*

41. *(Currently amended)* A method of increasing the proliferative capacity of a mammalian cell, comprising introducing into the cell *in vitro* a recombinant polynucleotide that encodes a telomerase reverse transcriptase protein in SEQ. ID NO:2 comprising SEQ. ID NO:2, or fragment thereof having telomerase catalytic activity when complexed with a telomerase RNA,

whereby introducing the recombinant polynucleotide into the cell increases the proliferative capacity of the cell.

42. *(Previously presented)* The method of claim 41, wherein the cell is a human cell.

43. *(Currently amended)* The method of claim 41, further comprising selecting the cell from other cells because it a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

44. *(Previously presented)* The method of claim 43, wherein the cell is a human cell.

45. *(Previously presented)* The method of claim 41, wherein the polynucleotide encodes a full-length, naturally occurring telomerase reverse transcriptase.

46. *(Previously presented)* The method of claim 45, wherein the cell is a human cell.

47. *(Currently amended)* The method of claim 45, further comprising selecting the cell from other cells because it a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

48. *(Currently amended)* The method of claim 41, wherein the polynucleotide comprises the telomerase reverse transcriptase encoding sequence in SEQ. ID NO:1 of SEQ. ID NO:1.

49. *(Currently amended)*   The method of claim 48, wherein the cell is a human cell.

50. *(Currently amended)* The method of claim 48, further comprising selecting the cell from other cells because it a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

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51. *(Currently amended)* The method of claim 50, wherein the cell is a human cell.

52. *(Previously presented)* The method of claim 41, wherein the recombinant polynucleotide is an expression vector.

53. *(Currently amended)* The method of claim 52, wherein the expression vector is an SV40 virus expression vector, an EBV expression vector, a herpesvirus expression vector, or a vaccinia virus expression vector.

54. *(Currently amended)* The method of claim 52, wherein the expression vector is a retrovirus expression vector.

55. *(Currently amended)* The method of claim 52, wherein the expression vector is an adenovirus expression vector.

56. *(Currently amended)* The method of claim 52, further comprising selecting ~~the cell from other cells because it~~ a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

57. *(Currently amended)* The method of claim 52, wherein the cell is a human cell.

58. *(Currently amended)*

A method of increasing the proliferative capacity of a mammalian cell, comprising introducing into the cell a recombinant polynucleotide that encodes a telomerase reverse transcriptase protein ~~in SEQ. ID NO:2~~ comprising SEQ. ID NO:2, or fragment thereof having telomerase catalytic activity when complexed with a telomerase RNA,

whereby introducing the recombinant polynucleotide into the cell increases the proliferative capacity of the cell.

59. *(Previously presented)* The method of claim 58, wherein the cell is a human cell.

60. *(Previously presented)* The method of claim 58, wherein the polynucleotide encodes a full-length, naturally occurring telomerase reverse transcriptase.

61. *(Currently amended)* The method of claim 58, wherein the polynucleotide comprises the telomerase reverse transcriptase encoding sequence ~~in SEQ. ID NO:1~~ of SEQ. ID NO:1.

62. *(Previously presented)* The method of claim 58, wherein the recombinant polynucleotide is an expression vector.

63. *(Previously presented)* The method of claim 62, wherein the expression vector is a retrovirus expression vector.

64. *(Previously presented)* The method of claim 62, wherein the expression vector is an adenovirus expression vector.

65. *(Previously presented)* The method of claim 62, wherein the cell is an epithelial cell.

66. *(Previously presented)* The method of claim 62, wherein the cell is a keratinocyte.

67. *(Previously presented)* The method of claim 62, wherein the cell is a hair matrix or hair shaft cell.

68. *(Previously presented)* The method of claim 62, wherein the cell is a hepatocyte.

69. *(Previously presented)* The method of claim 62, wherein the cell is an endothelial cell.

70. *(Previously presented)* The method of claim 62, wherein the cell is a cell of the ciliary epithelium of the eye.

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71.   *(Previously presented)* The method of claim 62, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.

72.   *(Previously presented)* The method of claim 62, wherein the cell is a heart cell.

73.   *(Previously presented)* The method of claim 62, wherein the cell is a lymphocyte.

74.   *(Previously presented)* The method of claim 63, wherein the cell is an epithelial cell.

75.   *(Previously presented)* The method of claim 63, wherein the cell is a keratinocyte.

76.   *(Previously presented)* The method of claim 63, wherein the cell is a hair matrix or hair shaft cell.

77.   *(Previously presented)* The method of claim 63, wherein the cell is a hepatocyte.

78.   *(Previously presented)* The method of claim 63, wherein the cell is an endothelial cell.

79.   *(Previously presented)* The method of claim 63, wherein the cell is a cell of the ciliary epithelium of the eye.

80.   *(Previously presented)* The method of claim 63, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.

81.   *(Previously presented)* The method of claim 63, wherein the cell is a heart cell.

82.   *(Previously presented)* The method of claim 63, wherein the cell is a lymphocyte.

83.   *(Previously presented)* The method of claim 64, wherein the cell is an epithelial cell.

84.   *(Previously presented)* The method of claim 64, wherein the cell is a keratinocyte.

85.   *(Previously presented)* The method of claim 64, wherein the cell is a hair matrix or hair shaft cell.

86.   *(Previously presented)* The method of claim 64, wherein the cell is a hepatocyte.

87.   *(Previously presented)* The method of claim 64, wherein the cell is an endothelial cell.

88. *(Previously presented)* The method of claim 64, wherein the cell is a cell of the ciliary epithelium of the eye.

89. *(Previously presented)* The method of claim 64, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.

90. *(Previously presented)* The method of claim 64, wherein the cell is a heart cell.

91. *(Previously presented)* The method of claim 64, wherein the cell is a lymphocyte.